3819 Devonshire Ave
Kalamazoo MI 49006-2703
Monday, January 31, 2000

Wendy R. Dixon, EIS Project Manager
Yucca Mountain Site Characterization Office
Office of Civilian Radioactive Waste Managaement
U.S. Department of Energy
P.O. Box 30307, M/S 010
North Las Vegas NV 89036-0307

EIS001199

Dear Wendy R. Dixon,

1 I am writing to express my opposition to the DOE proposal to use the Yucca Mountain, Nevada, site as the "permanent" storage site for high-level radioactive waste. It is not acceptable.

2 Your own DOE studies admit that the steel canisters which will be stored inside Yucca Mountain will eventually leak. It is expected that one or more of the more than 10,000 storage canisters is expected to fail within the next thousand years. It was suggested in the New York Times report that after 10,000 years all the canisters may degrade.

3 As evidenced in the experimental boreholes made for possible use in deep in ground storage, radioactive material from the above ground nuclear testing was found. The highly radioactive nuclear materials do not have to be water soluble, for even very, small radioactive particles can be transported in the flow of water in the underground water table.

What may be worse is that an earthquake at Yucca Mountain could cause groundwater to surge into the storage area, forcing dangerous amounts of plutonium into the atmosphere and contaminating the water supply. This is not an unlikely scenario, given that the area is a seismic minefield. Over the last 20 years, more than 621 earthquakes have been recorded in the area, at a magnitude of 2.5 or higher.

According to an article in a recent Chemical & Engineering News, where it was previously believed that plutonium in the stable oxide is exclusively Pu(IV), the present work shows that PuO2 can exist in a much higher oxidative state. It is suggested that more than 25% of plutonium atoms are actually in the Pu(VI) state.

A key factor in favor of burying plutonium waste was supposedly the highly insoluble nature of Pu(IV) compounds. In light of the fact that the Pu(VI) species does exist, and is more soluble in water, it will therefore be more mobile in geological environments. Thus, the safety of this storage plan needs to be reconsidered.

Sincerely,

Robert C. Anderson

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